

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein comprising a fusion of, toward the N-terminus, at least an MHC Class II binding domain of an MHC Class II  $\alpha$  chain and, toward the C-terminus, a dimerization domain.
2. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 1 wherein said MHC Class II binding domain comprises an extracellular domain of an MHC Class II  $\alpha$  chain.
3. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 2 wherein said extracellular domain comprises residues 5-180 of an MHC Class II  $\alpha$  chain.
4. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 2 wherein said extracellular domain comprises residues 5-200 of an MHC Class II  $\alpha$  chain.
5. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 2 wherein said extracellular domain comprises residues 5-190 of an MHC Class II  $\alpha$  chain.
6. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 1 wherein said MHC Class II  $\alpha$  chain is selected from the group consisting of HLA-DR1, HLA-DR2, HLA-DR4, HLA-DQ1, HLA-DQ2 and HLA-DQ8  $\alpha$  chains.
7. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 1 wherein said MHC Class II  $\alpha$  chain is encoded by an HLA allele selected from the group consisting of DRA\*0101, DRA\*0102, DQA1\*0301 and DQA1\*0501 alleles.
8. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein comprising a fusion of, toward the N-terminus, at least an MHC Class II binding domain of an MHC Class II  $\beta$  chain and, toward the C-terminus, a dimerization domain.
9. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 8 wherein said MHC Class II binding domain comprises an extracellular domain of an MHC Class II  $\beta$  chain.
10. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 9 wherein said extracellular domain comprises residues 5-185 of an MHC Class II  $\beta$  chain.

11. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 9 wherein said extracellular domain comprises residues 5-205 of an MHC Class II  $\beta$  chain.
12. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 9 wherein said extracellular domain comprises residues 5-195 of an MHC Class II  $\beta$  chain.
13. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 8 wherein said MHC Class II  $\beta$  chain is selected from the group consisting of HLA-DR1, HLA-DR2, HLA-DR4, HLA-DQ1, HLA-DQ2 and HLA-DQ8  $\beta$  chains.
14. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 8 wherein said MHC Class II  $\beta$  chain is encoded by an allele selected from the group consisting of DRB1\*01, DRB1\*15, DRB1\*16, DRB5\*01, DRB1\*03, and DRB1\*02 alleles.
15. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in any one of claims 1-14 wherein said dimerization domain is a coiled-coil domain.
16. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 15 wherein said dimerization domain is a leucine zipper domain.
17. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 16 wherein said leucine zipper domain comprises at least four leucine heptads.
18. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 16 wherein said leucine zipper domain is selected from the group consisting of a Fos and a Jun leucine zipper domain.
19. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in any one of claims 1-14 wherein said dimerization domain is an immunoglobulin Fab constant domain.
20. **(Withdrawn)** A Class II Major Histocompatibility Complex fusion protein as in claim 19 wherein said immunoglobulin Fab constant domain is an immunoglobulin heavy chain C<sub>H</sub>1 constant region.
- 21-102. **(Cancelled)**

103. **(Previously presented)** A Class II Major Histocompatibility Complex fusion protein comprising
- a heterodimer of a first polypeptide chain and a second polypeptide chain;
- wherein the first polypeptide chain comprises a fusion of, toward the N-terminus, an extracellular domain of a human MHC Class II  $\alpha$  chain and, toward the C-terminus, a first coiled-coil dimerization domain; and
- wherein the second polypeptide chain comprises a fusion of, toward the N-terminus, an extracellular domain of a human MHC Class II  $\beta$  chain and, toward the C-terminus, a second coiled-coil dimerization domain; and
- wherein the first dimerization domain and said second dimerization domain associate in solution at physiological conditions to form a heterodimer capable of selectively binding a MHC binding peptide.
- 104-113. **(Cancelled)**
114. **(Previously presented)** The MHC Class II fusion protein of claim 103 wherein the extracellular domain of the MHC Class II  $\alpha$  chain comprises amino acid residues 5-180 of a MHC Class II  $\alpha$  chain.
115. **(Previously presented)** The MHC Class II fusion protein of claim 103 wherein the extracellular domain of the MHC Class II  $\alpha$  chain comprises amino acid residues 5-200 of a MHC Class II  $\alpha$  chain.
116. **(Previously presented)** The MHC Class II fusion protein of claim 103 wherein the MHC Class II  $\alpha$  chain is an HLA-DR2 allele.
117. **(Previously presented)** The MHC Class II fusion protein of claim 103 wherein the MHC Class II  $\alpha$  chain is encoded by an HLA allele selected from the group consisting of DRA\*0101 and DRA\*0102.
118. **(Previously presented)** The MHC Class II fusion protein of claim 103 wherein the MHC Class II  $\beta$  chain extracellular domain comprises amino acid residues 5-185 of an MHC Class II  $\beta$  chain.

119. **(Previously presented)** The MHC Class II fusion protein of claim 103 wherein the MHC Class II  $\beta$  chain extracellular domain comprises amino acid residues 5-205 of an MHC Class II  $\beta$  chain.
120. **(Previously presented)** The MHC Class II fusion protein of claim 103 wherein the MHC Class II  $\beta$  chain is an HLA-DR2 allele.
121. **(Previously presented)** The MHC Class II fusion protein of claim 103 wherein the MHC Class II  $\beta$  chain is encoded by an allele selected from the group consisting of DRB1\*01, DRB1\*15, DRB1\*16, and DRB5\*01.
122. **(Previously presented)** The MHC Class II fusion protein of claim 103 wherein at least one of the dimerization domains comprises a leucine zipper domain.
123. **(Previously presented)** The MHC Class II fusion protein of claim 122 wherein the leucine zipper domain comprises at least four leucine heptads.
124. **(Previously presented)** The MHC Class II fusion protein of claim 123 wherein the leucine zipper domain is selected from the group consisting of a Fos and a Jun leucine zipper domain.
125. **(Previously presented)** The MHC Class II fusion protein of claim 103 further comprising a first immunoglobulin Fc domain positioned at the C-terminus of at least one of the first and or second polypeptide chains.
126. **(Previously presented)** The MHC Class II fusion protein of claim 125 wherein the Fc domain is an IgG Fc domain.
127. **(Previously presented)** The MHC Class II fusion protein of claim 125 wherein the Fc domain includes the hinge region.
128. **(Previously presented)** The MHC Class II fusion protein of claim 103 further comprising a first flexible molecular linker covalently linking the MHC Class II  $\alpha$  chain to the first dimerization domain and a second flexible molecular linker covalently linking the MHC Class II  $\beta$  chain to the second dimerization domain.
129. **(Previously presented)** The MHC Class II fusion protein of claim 103 further comprising an MHC binding peptide bound to the MHC Class II fusion protein.

130. **(Previously presented)** The MHC Class II fusion protein of claim 129 wherein the MHC binding peptide is covalently bound to the MHC Class II fusion protein.
131. **(Previously presented)** A MHC Class II-peptide complex comprising  
at least one Class II MHC fusion protein comprising a heterodimer of a first polypeptide chain and a second polypeptide chain;  
wherein the first polypeptide chain comprises a fusion of, toward the N-terminus, an extracellular domain of a human MHC Class II  $\alpha$  chain, and toward the C-terminus, a flexible molecular linker, and a first coiled-coil dimerization domain;  
wherein the second polypeptide chain comprises a fusion of, toward the N-terminus, an extracellular domain of a human MHC Class II  $\beta$  chain, and toward the C-terminus, a flexible molecular linker, and a second coiled-coil dimerization domain;  
wherein a Fc domain is covalently attached to the C-terminus of at least one of the first or second dimerization domains;  
wherein the first dimerization domain and said second dimerization domain associate in solution at physiological conditions; and  
a MHC binding peptide covalently bound to the at least one MHC Class II fusion protein.
132. **(Previously presented)** The MHC Class II-peptide Complex of claim 131 wherein the MHC binding peptide is covalently attached to the N-terminus of the first polypeptide chain and the Fc domain is covalently attached to the C-terminus of the second polypeptide chain.
133. **(Previously presented)** The MHC Class II-peptide Complex of claim 131 wherein the MHC binding peptide is covalently attached to the N-terminus of the second polypeptide chain and the Fc domain is covalently attached to the C-terminus of the first polypeptide chain.
134. **(Previously presented)** The MHC Class II fusion protein of claim 131 wherein the extracellular domain of the MHC Class II  $\alpha$  chain comprises amino acid residues 5-180 of a MHC Class II  $\alpha$  chain.

135. **(Previously presented)** The MHC Class II fusion protein of claim 131 wherein the extracellular domain of the MHC Class II  $\alpha$  chain comprises amino acid residues 5-200 of a MHC Class II  $\alpha$  chain.
136. **(Previously presented)** The MHC Class II fusion protein of claim 131 wherein the MHC Class II  $\alpha$  chain is an HLA-DR2 allele.
137. **(Previously presented)** The MHC Class II fusion protein of claim 131 wherein the MHC Class II  $\alpha$  chain is encoded by an HLA allele selected from the group consisting of DRA\*0101 and DRA\*0102.
138. **(Previously presented)** The MHC Class II fusion protein of claim 131 wherein the MHC Class II  $\beta$  chain extracellular domain comprises amino acid residues 5-185 of a MHC Class II  $\beta$  chain.
139. **(Previously presented)** The MHC Class II fusion protein of claim 131 wherein the MHC Class II  $\beta$  chain extracellular domain comprises amino acid residues 5-205 of a MHC Class II  $\beta$  chain.
140. **(Previously presented)** The MHC Class II fusion protein of claim 131 wherein the MHC Class II  $\beta$  chain is an HLA-DR2 allele.
141. **(Previously presented)** The MHC Class II fusion protein of claim 131 wherein the MHC Class II  $\beta$  chain is encoded by an allele selected from the group consisting of DRB1\*01, DRB1\*15, DRB1\*16, and DRB5\*01.
142. **(Previously presented)** The MHC Class II fusion protein of claim 131 wherein at least one of the dimerization domains comprises a leucine zipper domain.
143. **(Previously presented)** The MHC Class II fusion protein of claim 142 wherein the leucine zipper domain comprises at least four leucine heptads.
144. **(Previously presented)** The MHC Class II fusion protein of claim 143 wherein the leucine zipper domain is selected from the group consisting of a Fos and a Jun leucine zipper domain.

145. **(Previously presented)** The MHC Class II fusion protein of claim 131 wherein the Fc domain is an IgG Fc domain.
146. **(Previously presented)** The MHC Class II fusion protein of claim 131 wherein the Fc domain includes the hinge region.
147. **(Previously presented)** The MHC Class II fusion protein of claim 131 further comprising a first flexible molecular linker covalently linking the MHC Class II  $\alpha$  chain to the first dimerization domain and a second flexible molecular linker covalently linking the MHC Class II  $\beta$  chain to the second dimerization domain